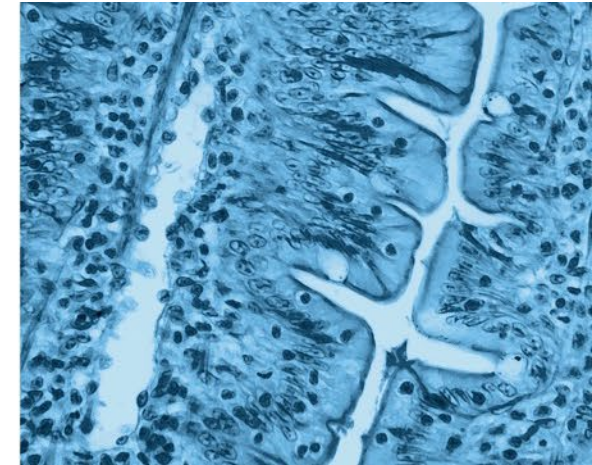




Can stocking density and feeding space influence weaned piglet performance and behaviour?

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Introduction

➤ Minimum requirements (m²/ pig)

Body weight, kg

Besluit houders van dieren¹

Directive 2008/120/EC

Directive 2010/63/EU (for scientific purposes)

	10		20		30		40		50
Besluit houders van dieren ¹	0.20		0.30			0.50			
Directive 2008/120/EC	0.15	0.20		0.30		0.40			
Directive 2010/63/EU (for scientific purposes)	0.25	0.35		0.50		0.70			

Reference	Feeding places/ piglet		Drinking places/ piglet	
	3-4 days PW	4 days PW – 25 kg	3-4 days PW	4 days PW – 25 kg
VIC sterksel ²	0.50	0.20	0.20	0.10



¹In case groups are larger than 40 pigs; m² per pig/ can be reduced by 10%
²https://www.wur.nl/upload_mm/f/b/a/29b9f82c-240c-4615-ab59-1e7416ea6418_aantal%20vreet%20en%20drinkplaatsen,%20biggen%20en%20vleesvarkens%20bij%20droogvoerverstrekking.pdf

Housing conditions SFR

Department	Small pen - new	Small pen - old	Large pen
Pen size	2.00 x 1.13 m	2.00 x 1.13 m	1.60 x 2.59 m
# piglets/ pen	6-7	6-7	14
Surface/ piglet	0.37-0.32 m ²	0.37-0.32 m ²	0.32 m ²
Floor type	Partly slatted	Fully slatted	Partly slatted
# drink nipples	1	1	1
Drinking places/ piglet	0.17-0.14	0.17-0.14	0.07
# feeding places	3	6	3
Feeding places/ piglet	0.50-0.42	1.00-0.85	0.21



Besluit houders van dieren & Directive 2008/120/EC



VIC sterksel



VIC sterksel



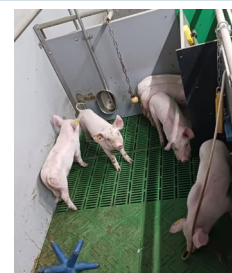
Objective

- Can stocking density and feeding space influence weaned piglet performance and behaviour?
- **Trial 1)** Low stocking density ($0.57 \text{ m}^2/\text{pig}$) vs. moderate stocking density ($0.38 \text{ m}^2/\text{pig}$)
 - **Trial 2)** 0.50 feeding space/ piglet vs. 1.00 feeding space/ piglet



Experimental design

Department	Trial 1		Trial 2	
	Small pen - new	Small pen - new	Small pen - new	Small pen - old
Pen size	2.00 x 1.13 m	2.00 x 1.13 m	2.00 x 1.13 m	2.00 x 1.13 m
# piglets/ pen	4	6	4	4
Surface/ piglet	0.57 m²	0.37 m ²	0.57 m²	0.57 m²
Floor type	Partly slatted	Partly slatted	Partly slatted	Fully slatted
# drink nipples	1	1	1	1
Drinking places/ piglet	0.25	0.17	0.25	0.25
# feeding places	3	3	3	6
Feeding places/ piglet	0.75	0.50	0.75	1.50



Experimental design

➤ Stocking density

- 24 replicates (pen)/ treatment
- Weaning weight 8.38 kg (SD = 0.530)
- Weaning age 29.8 days (SD = 0.55)
- Commercial diets

Trial
1

➤ Feeding places

- 12 replicates (pen)/ treatment
- Weaning weight 7.31 kg (SD = 0.377)
- Weaning age 31.4 days (SD = 1.66)
- Commercial diets

Trial
2



Experimental design

➤ Stocking density

- Damage score @ day 35 post-weaning

➤ Feeding places

- Damage score @ day 14 and day 35 post-weaning

Trial
1

Trial
2

Tail damage (# of piglet affected)

Score 0 Intact tail No tail damage

Score 1 Damaged tail This include bite marks, open wounds (fresh blood or crust), and/or red/ swollen tails

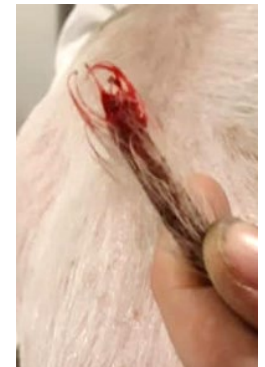
Score 2 Incomplete tail Shortened tail

Ear damage (# of piglet affected)

Score 0 Intact ear No ear damage

Score 1 Damaged ear Superficial scratches or visible lesions with fresh or dried blood

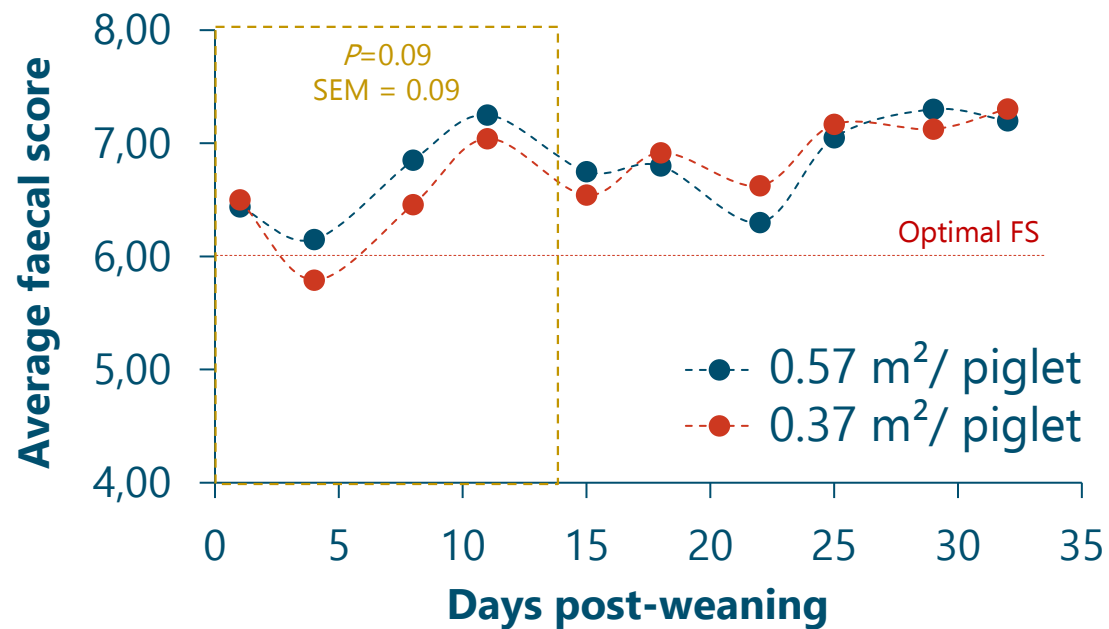
Score 2 Incomplete ear Severe damage part of the ear is missing



Results

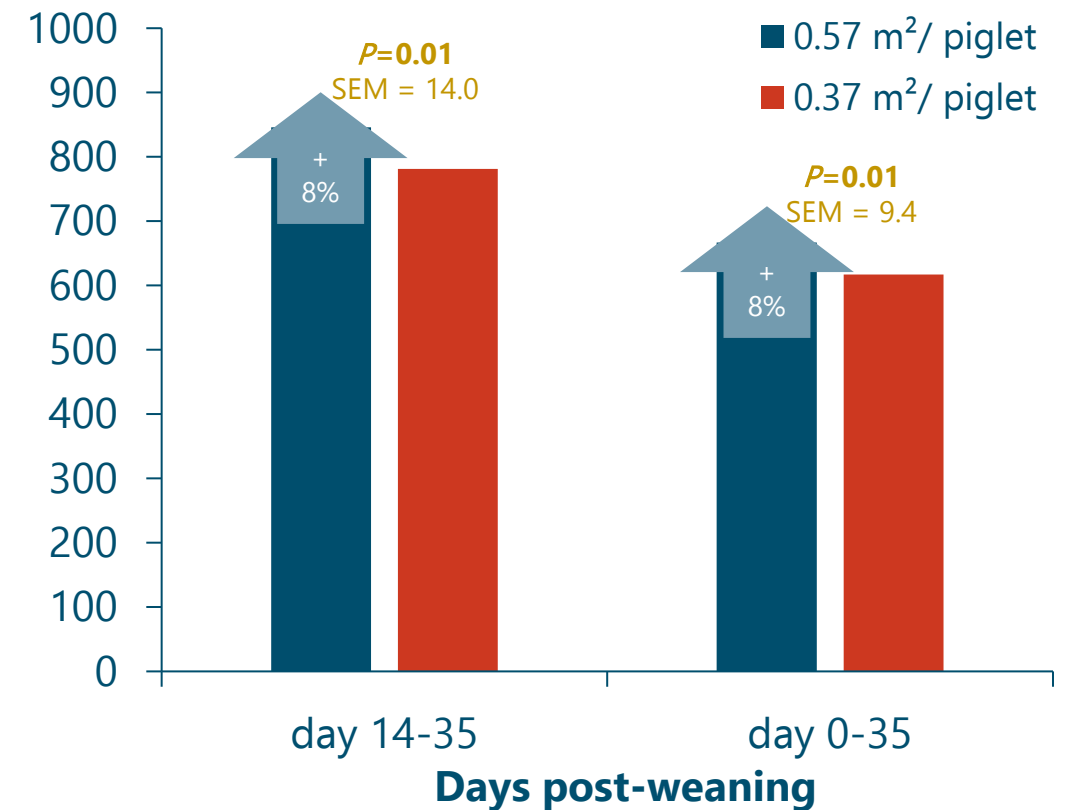
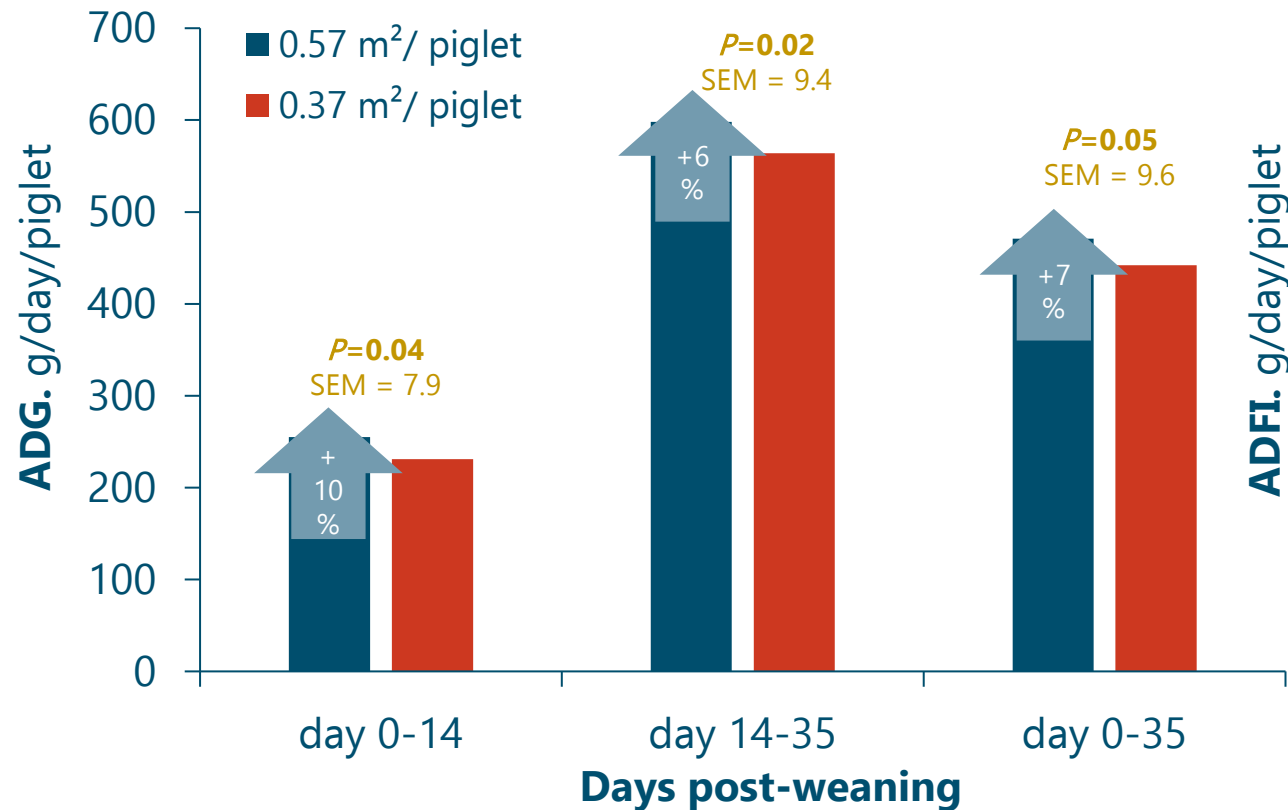


- One piglet died during the trial (meningitis)
- 4.51% piglets medically treated ($P = 0.46$)



Description	Intact tail	Damaged tail	Incomplete tail
0.57 m ² / piglet	97.9	0.0	2.1
0.37 m ² / piglet	95.8	3.5	0.7

Results

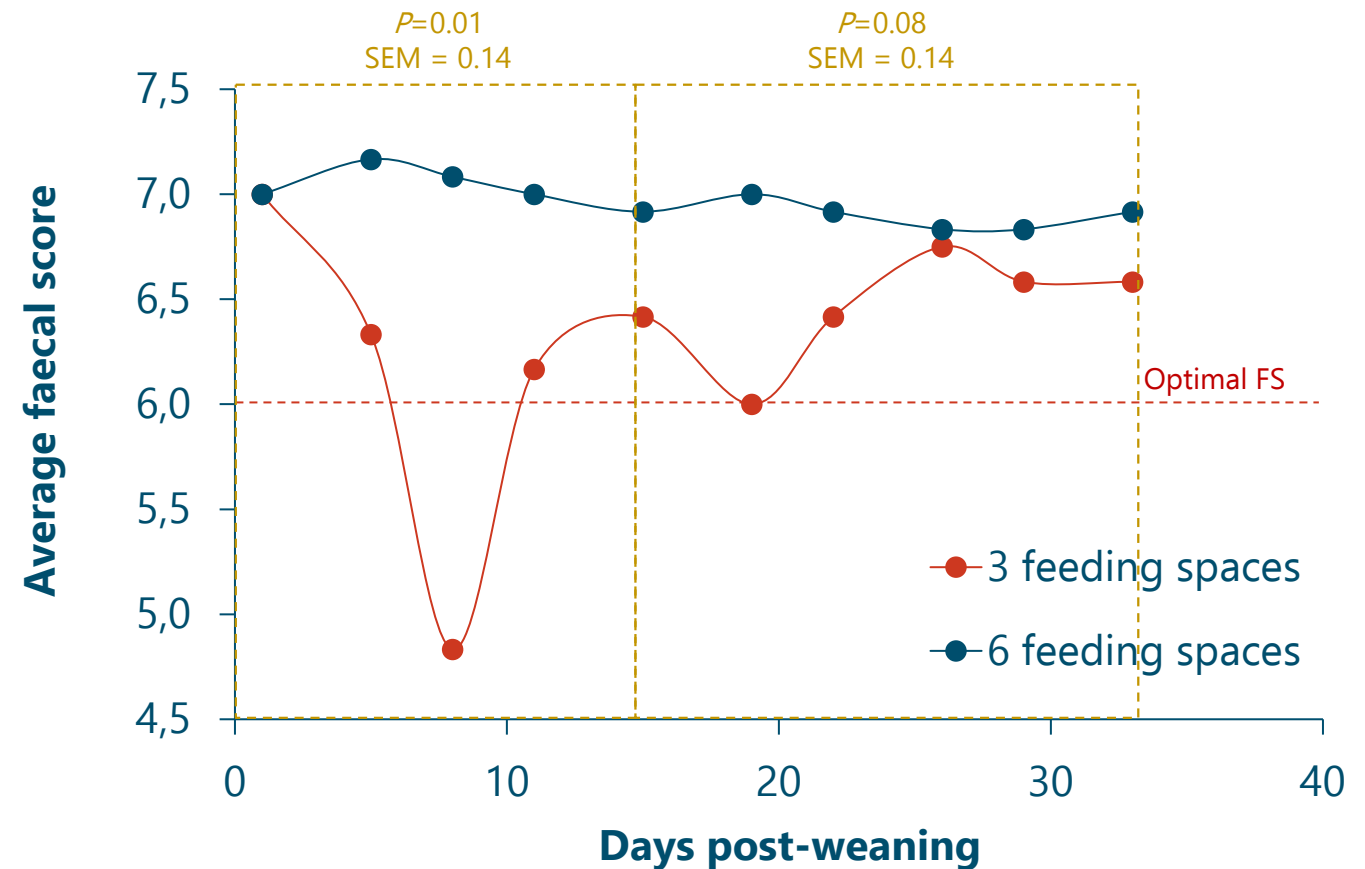


FCR was also significantly improved (-7%) between day 0-14 post-weaning ($P=0.02$) for 0.57 m²/ piglets

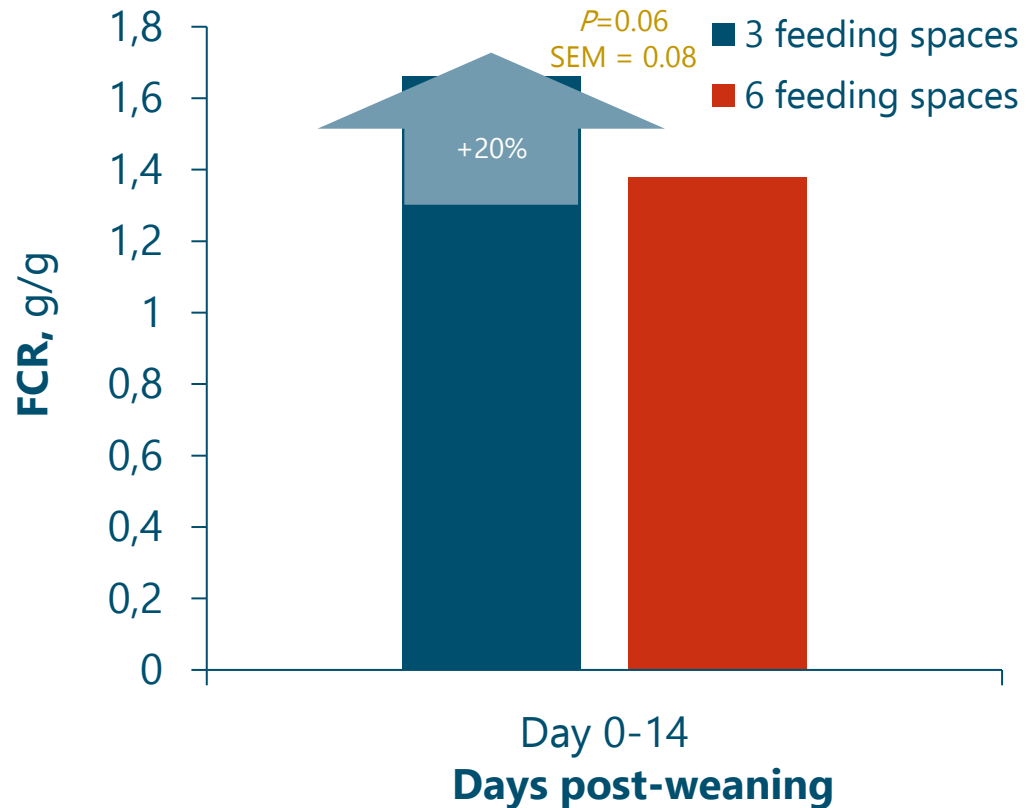
Results

- No piglet died
- 4.17% piglets medically treated

Trial
2



Results



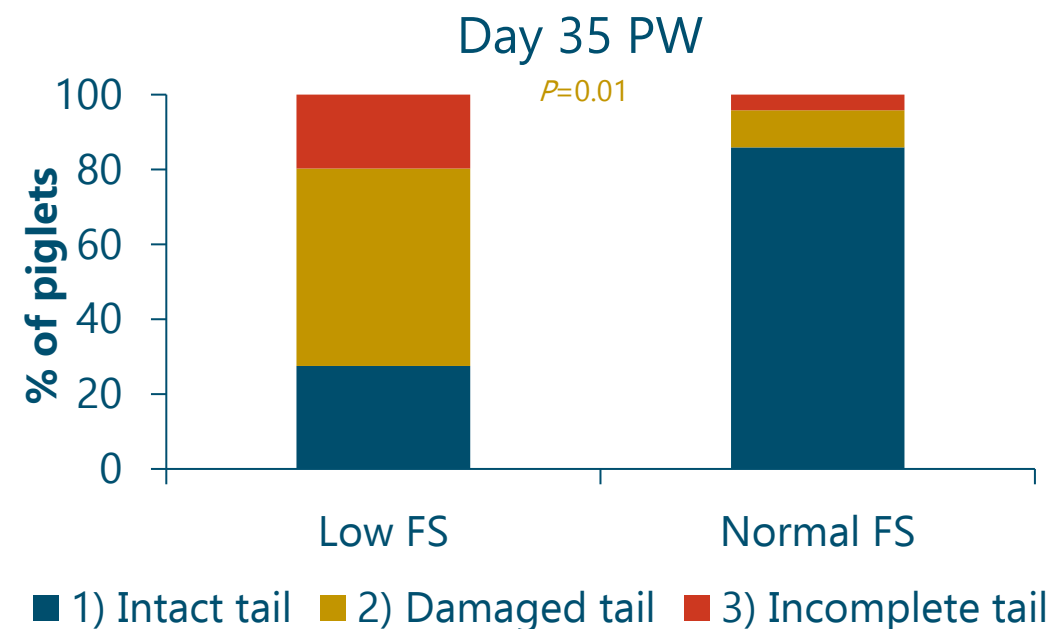
Description	Intact tail	Damaged tail	Incomplete tail	P-value
	Day 14 PW			
3 feeding places	95.8	4.2	0.0	NS
6 feeding places	100	0.0	0.0	
	Day 28 PW			
3 feeding places	93.8	6.3	0.0	0.03
6 feeding places	87.5	10.4	2.1	

Maybe because different rooms (floor)?

Follow-up trial



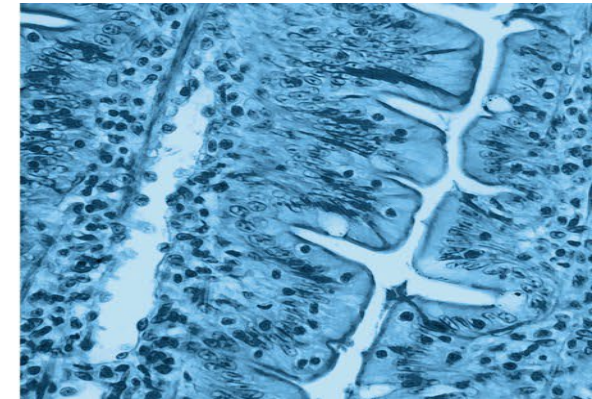
Department	Low FS	Normal FS
Pen size	2.00 x 1.13 m	4.00 x 1.13 m
# piglets/ pen	6	14
Surface/ piglet	0.37 m ²	0.32 m²
Floor type	Fully slatted	Fully slatted
# drink nipples	1	1
Drinking places/ piglet	0.17	0.07
# feeding places	6	6
Feeding places/ piglet	1.00	0.43



Conclusion

- An addition of 0.2 m²/ piglet results in an improved performance
- Feeding space can influence faecal consistency and biting behaviour
 - Maybe dependent also on other factors (floor type)?





Thank you for your attention

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